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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,767	12/02/2003	Young Woo Yoon	K-280A	1795

34610 7590 04/28/2005

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EXAMINER
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TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/724,767

Applicant(s)

YOON ET AL.

Examiner

Joseph D. Torres

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 61-136 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 61-136 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 61-86, drawn to A method comprising: during configuration of a communication channel, setting a coding rate of an encoder to an initial value; adjusting the coding rate at the encoder by varying the coding rate from the initial value to an adjusted value; and encoding data input into the encoder at a coding rate having the adjusted value, wherein the method is implemented during at least one of variable data rate mode and flexible data rate mode, classified in class 714, subclass 774.
- II. Claims 87-110, drawn to A method comprising: encoding transmission data; rate matching encoded transmission data; and block interleaving rate matched encoded transmission data, wherein a coding rate is variable according to a data rate of the transmission data and unit size of said block interleaving, classified in class 714, subclass 779.
- III. Claims 111-135, drawn to A method comprising varying a coding rate for a communication channel according to a change in a rate at which data is input into an encoder after initial configuration of the communication channel, classified in class 714, subclass 774.

- IV. Claim 136, drawn to (New) A method of processing bit streams at a communication system which has a turbo encoder having a preset code rate and an interleaver having a block size, comprising the steps of:
- receiving a bit stream having a flexible data rate mode or a variable data rate mode into the encoder; varying the preset code rate to a code rate; coding the input bit stream with the varied code rate at the encoder; and performing puncturing or repetition on the output of the encoder to match the block size of the interleaver,** classified in class 714, subclass 790.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I to Group IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group I has separate utility such as for setting a coding rate of an encoder to an initial value; adjusting the coding rate at the encoder by varying the coding rate from the initial value to an adjusted value; and encoding data input into the encoder at a coding rate having the adjusted value, wherein the method is implemented during at least one of variable data rate mode and flexible data rate mode. In the instant case, invention Group II has separate utility such as for encoding transmission data; rate matching encoded transmission data; and block interleaving rate matched encoded transmission data, wherein a coding rate is variable according to a data rate of the transmission data and unit size of said block interleaving. In the instant case, invention Group III has separate

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utility such as for a communication channel according to a change in a rate at which data is input into an encoder after initial configuration of the communication channel. In the instant case, invention Group IV has separate utility such as for receiving a bit stream having a flexible data rate mode or a variable data rate mode into the encoder; varying the preset code rate to a code rate; coding the input bit stream with the varied code rate at the encoder; and performing puncturing or repetition on the output of the encoder to match the block size of the interleaver. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Groups I-IV are mutually exclusive, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

A telephone call was made to Daniel Kim on 4/13/2005 to request an oral election to the above restriction requirement, but did not result in an election being made.


Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JOSEPH TORRES  
PRIMARY EXAMINER

Joseph D. Torres, PhD  
Primary Examiner  
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